Attorney's Docket No.: 06129-156001

#21 SWS / Brief on Appeal

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kevin H. Gillespie
Serial No. : 09/458,415
Filed : December 10, 1999
Title : SHOE OUTSOLE

Art Unit : 3728
Examiner : Anthony D. Stashick

BOX AF
Commissioner for Patents
Washington, D.C. 20231

BRIEF ON APPEAL

(1) Real Party in Interest

The patent application is assigned to SRL, Inc. by virtue of an assignment by the inventor, Kevin H. Gillespie to SRL, Inc.

(2) Related Appeals and Interferences

There are no related pending appeals or interferences.

(3) Status of Claims

Claims 1-8 and 47-76 are in the case.

In a Final Office action mailed April 23, 2002:

Claims 1 and 4-7 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Tomat (U.S. 6,092,251).

Claims 2 and 3 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomat in view of Patterson (U.S. 6,176,025).

Claim 8 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomat in view of Lennihan, Jr. (U.S. 5,875,568).

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

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Typed or Printed Name of Person Signing Certificate

Claims 47, 49-59, 61-65 and 67-73 have also been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomat in view of Turner (U.S. Des. 417,946).

Claims 60, 66, 74 and 75 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomat in view of Turner and further in view Lennihan, Jr.

Claim 48 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomat in further view of Turner and Lennihan, Jr.

Claim 76 has been rejected under 35 U.S.C. § 103(a) as being obvious over Tomat.

(4) Status of Amendments

All amendments have been entered.

(5) Summary of Invention

The invention features a shoe outsole for a baby shoe particularly suited to facilitate walking of a first walker by mimicking the barefoot gait of the first walker through the maximization of shoe flexibility. The shoe outsole includes an outer member having an inner heel region and an inner member located in the inner heel region that includes a ground contacting surface. The inner member has a softer durometer than the outer member, and the shoe outsole is dimensioned for use in a baby shoe where the inner member is positioned and dimensioned to fit under a baby's heel during use of the baby shoe. These features, among others, aid in the development of first walkers by attempting to meet two objectives: (1) mimicking the barefoot walking characteristics of a first walker, and (2) aiding the stability of the first walker, rather than destabilizing the baby's gait.

In some implementations, featured in claims 5-7, 47 and 76, the shoe outsole further includes an intermediate member, located in an intermediate region of the outer member and having a softer durometer than the outer member. The intermediate member may include a plurality of ridges, as recited in claim 47.

In other implementations, the shoe outsole further includes grooves in the upper forefoot region, i.e., grooves in the upper surface of the outsole that faces the user's foot when the shoe is worn (claims 48-59). These grooves are provided to improve the flexibility of the shoe, an important consideration in a baby shoe.

(6) Issues

(A) Are claims 1 and 4-7 anticipated by Tomat (U.S. 6,092,251) under 35 U.S.C. § 102(e)?

(B) Is the subject matter of claims 2 and 3 obvious under 35 U.S.C. § 103(a) over Tomat in view of Patterson (U.S. 6,176,025)?

(C) Is the subject matter of claim 8 obvious under 35 U.S.C. § 103(a) over Tomat in view of Lennihan, Jr. (U.S. 5,875,568)?

(D) Is the subject matter of claims 47, 49-59, 61-65 and 67-73 obvious under 35 U.S.C. § 103(a) over Tomat in view of Turner (U.S. Des. 417,946)?

(E) Is the subject matter of claims 60, 66, 74 and 75 obvious under 35 U.S.C. § 103(a) over Tomat in view of Turner and further in view Lennihan, Jr?

(F) Is the subject matter of claim 48 obvious under 35 U.S.C. § 103(a) over Tomat in further view of Turner and Lennihan, Jr.?

(G) Is the subject matter of claim 76 obvious under 35 U.S.C. § 103(a) over Tomat?

(7) Grouping of Claims

The claims do not stand or fall together.

The following groups of claims, where a ground of rejection applies to more than one claim in the group, stand or fall together:

I. Claims 1-4, 8, and 60-75 stand or fall together;
II. Claims 5-7, 47 and 76 stand or fall together; and
III. Claims 48-59 stand or fall together.

(8) Argument

The Applicant will explain why the rejections should be reversed.

A. Claims 1 and 4-7 are not anticipated by Tomat

Applicant's claims recite a shoe outsole for a baby shoe, i.e., a shoe outsole that is dimensioned for use in a baby shoe.

Tomat does not teach or suggest a baby shoe or an outsole for such a shoe. Instead, Tomat is directed solely to methods of manufacturing shoes. As discussed in paragraph 11 of the Declaration of David Thorpe (submitted herewith), it is clear that the Tomat shoes are adult shoes because of the relatively thick, inflexible outsole and the required bulky insole 12, which would not be suitable for use in a baby shoe. Referring to Tomat column 1, lines 37-39, column 2, line 60 and Fig. 7, it is clear that the shoes disclosed are provided for a wearer comfortable with walking in shoes (i.e., not a baby). Tomat states, "Another important object is to provide a vulcanization method of producing shoes of low weight and highly comfortable for the user *while walking*."

Because Tomat does not teach or suggest an outsole for a baby shoe, as claimed, claims 1 and 4-7 are not anticipated by Tomat.

Additionally, claims 5-7 (group II) are not anticipated because Tomat does not teach or suggest the combination of an inner member and an intermediate member, as claimed.
In support of the rejection of these claims, the Examiner asserts that Tomat's insert 11 in the forward area of the Tomat shoe constitutes an "intermediate member." Applicant respectfully disagrees.

Reading Applicant's claims in view of Applicant's specification, it is clear that the claimed intermediate region, in which the intermediate member is disposed, lies between the outer and inner members (see, e.g., Fig. 3 and p. 4, lines 14-16 of Applicant's specification). In contrast, in the Tomat shoe, the insert 11 in the heel area, which the Examiner construes to be an "inner member" is completely bounded by the midsole 4 (which, following the Examiner's interpretation, would be construed as an outer member). Thus, the insert 11 in the forefoot area does not lie between the insert 11 in the heel area and the midsole 4, and cannot fairly be construed to be an intermediate member as claimed.

In support of his rejection of claim 7, the Examiner points out that Tomat teaches that the two inserts 11 can be a single component (Tomat col. 2, lines 50-52). In this embodiment of the Tomat shoe, the single insert 11 clearly could not constitute both an inner member and an intermediate member, as claimed.

Neither the rear insert 11, nor a single insert, in the embodiment pointed out by the examiner, can be construed to include an intermediate member. There is no suggestion in Tomat

that either of the inserts 11 includes two separate parts -- an inner member and an intermediate member. Instead, it appears that the markings on the surface of the inserts, seen in Fig. 2 of Tomat, are merely part a decorative pattern; if these markings served some function, surely Tomat would have described them and indicated their purpose. Thus, assuming arguendo that the insert 11 in the heel area could be construed as an "inner member" (which is not conceded), this element cannot constitute both an inner member and an intermediate member.

Thus, there is no teaching or suggestion in Tomat of an intermediate member as claimed.

As discussed above, Tomat does not anticipate Applicant's claims and Applicant respectfully requests that this rejection be reversed.

B. Claims 2 and 3 are not obvious under 35 U.S.C. § 103(a) over Tomat in view of Patterson

Applicant respectfully requests that dependent claims 2 and 3 be reconsidered and the rejection be reversed in light of the above arguments. Patterson, cited for its teaching of a bladder-like cushion in the heel of an outsole, does not supply that which is lacking in Tomat. For example, Patterson does not teach or suggest a baby's shoe or an outsole for such a shoe, nor does Patterson teach or suggest the combination of an inner member and an intermediate member. Instead, Patterson relates to specialized shoes for use in playing golf, a game that is unpopular with babies as a rule.

C. Claim 8 is not obvious under 35 U.S.C. § 103(a) as being unpatentable over Tomat in view of Lennihan, Jr.

Applicant respectfully requests that dependent claim 8 be reconsidered and the rejection be reversed in light of the above arguments. Lennihan, cited for its teaching of a shoe having a back wall with a rounded contour, does not supply that which is lacking in Tomat. For example, Lennihan does not teach or suggest a baby's shoe or an outsole for such a shoe, nor does Lennihan teach or suggest the combination of an inner member and an intermediate member. Instead, Lennihan describes running shoes.

D. Claims 47, 49-59, 61-65 and 67-73 are not obvious under 35 U.S.C. § 103(a) over Tomat in view of Turner

As noted above, Applicant's claims recite a shoe outsole for a baby shoe. Applicant's claims further require that the softer durometer inner member be positioned and dimensioned to fit under a baby's heel during use of the baby shoe. In contrast, both Tomat and Turner are directed solely to adult shoes. This distinction is a significant one, and involves the structural characteristics of the outsole.

After a study of the gaits of babies who are learning to walk, conducted by the assignee (Stride Rite) and Connecticut Children's Medical Center (CCMC), Applicant discovered that providing this inner member allows babies to comfortably roll from heel to toe in a correct walking gait. The relatively soft inner member also tends to reduce the wobbling that many babies exhibit when walking in conventional relatively stiff-soled baby shoes. The Stride Rite research and development project that utilized the gait information obtained from the CCMC gait study is discussed in the Declaration of David Thorpe, paragraphs 4-10.

The gait study confirmed that gaits of first walkers (babies learning to walk) are different from those of experienced, adult walkers, and raise different concerns. For example, walking barefoot was generally easier for first walkers than walking in the shoes that were tested. These shoes tended to cause the babies to wobble. The study also showed that a baby's foot naturally rolls from heel to toe in a proper gait, whereas the shoes that were tested introduced improper side-to-side motion. The gait study also determined the profile of pressure exerted on the sole of a baby's foot during walking, which allowed Stride Rite to identify areas of relatively higher pressure. (Declaration of David Thorpe, paragraph 5.)

Based on the information obtained from the gait study, Stride Rite identified two key objectives for its work in developing a new baby shoe. Stride Rite wanted to develop a baby shoe that would (1) successfully mimic the barefoot walking characteristics of a first walker, and (2) aid the stability of the first walker, rather than destabilizing the baby's gait. The Stride Rite Natural Motion System products (baby shoes which embody the claimed invention) were developed to meet these objectives. (Declaration of David Thorpe, paragraph 6.)

These objectives are not fundamental in the design of adult footwear. The mimicking of barefoot walking is essential to a first walker -- the closer a shoe comes to achieving this goal,

the easier the child will adapt to walking in footwear. Stability is also crucial, as a first walker adapting to footwear still has to master the art of balance. In contrast, an adult walker is already adept at walking, and has adapted to wearing shoes and perfected his or her balance. (Declaration of David Thorpe, paragraph 10.)

None of the cited references teaches or fairly suggests a shoe outsole for a baby shoe. Instead, each of the references is directed to a shoe designed for use by adults.

As discussed in the Declaration of Dr. Edward Mostone, submitted herewith, there are significant differences between infant feet and adult feet.

Infant feet are not simply smaller versions of adult feet. For instance, an infant's foot is hyper-mobile, and has little or no arch, due to "baby fat." Moreover, the bones of an infant are very soft. Some bones do not even appear on an x-ray of an infant's foot, because ossification has not yet occurred. As a result, the bone structure of an infant's foot is moldable until the child is at least 4-6 years old. These characteristics do not occur in most normal adult feet. (Declaration of Dr. Edward Mostone, paragraph 2.)

The gait of an infant is also different from that of an adult. Infants tend to waddle, with their toes directed outward in a "duck walk." A normal, adult gait is generally not achieved until the child is 6 to 8 years old. Infants also have great difficultly balancing on two feet -- as a result many infants tend to walk with their arms raised, in an effort to balance. Improper footwear can exacerbate these problems. Most normal adults do not suffer from these problems. (Declaration of Dr. Edward Mostone, paragraph 3.)

As discussed in the Declaration of David Thorpe, each of the cited references describes a shoe that is designed for adult use and would not be suitable for a first walker. The Tomat shoe does not have the flexibility required for a baby shoe. Instead, the Tomat shoe has a relatively thick, inflexible outsole, and Tomat requires the use of a bulky insole 12 (see col. 2, line 61 and Fig. 7). The other shoes described in the references include studded soles, footbeds and thick rounded soles that would not be suitable for use in a baby shoe. (Declaration of David Thorpe, paragraph 11.)

Moreover, Turner shows a sole for footwear and, as a design patent, provides no description as to the type of shoe with which the sole would be used. Patterson describes a golf shoe and Lennihan describes a running shoe, shoe types that clearly are not intended for use by

babies. Thus, none of the cited references recognize the benefit of including, in a baby shoe, a relatively soft inner member positioned and dimensioned to fit under the baby's heel.

Furthermore, independent claim 47 (group II), recites, "an inner member, located in an inner heel region of the shoe outsole; and an intermediate member located in an intermediate region of the shoe outsole, between the outer member and the inner member." As noted above with respect to claims 5-7, Tomat fails to disclose an intermediate member between the outer member and the inner member. Tomat merely teaches inserts 11 that may comprise a one-piece member. Similarly, Turner fails to disclose an intermediate region disposed between inner and outer members. Turner merely illustrates a single-member sole. Because Turner fails to overcome the deficiencies noted above with respect to Tomat, Applicant respectfully requests this rejection be reversed.

Additionally, claims 49-59 (group III) require that the shoe outsole include a plurality of parallel grooves defined in the upper forefoot region," a feature that is neither taught nor fairly suggested by Tomat or Turner. Referring to Fig. 1 of Applicant's specification, upper surface 20 includes upper forefoot region 24. In Applicant's outsole, grooves 26 may be included in upper forefoot region 24 to provide additional flexibility. (See page 3, lines 26-27, of Applicant's specification). Referring to Figs. 1-7 of Tomat, it is clear that Tomat fails to disclose the use of grooves in an upper forefoot region. Instead, the upper forefoot region is smooth, as can be seen in Fig. 7 of Tomat. Similarly, Turner discloses a smooth upper forefoot region. (See Fig. 5 of Turner.)

Applicant respectfully requests that the rejection of claims 49-59, 61-65 and 67-73, which are dependent on claim 1, be reconsidered in light of the arguments set forth with regard to claim 1, above, and the rejection be reversed.

E. Claims 60, 66, 74 and 75 are not obvious under 35 U.S.C. § 103(a) over Tomat in view of Turner and further in view Lennihan, Jr

Applicant respectully requests that dependent claims 60, 66, 74 and 75, which are dependent on claim 1, be reconsidered and the rejection be reversed in light of the above arguments. As discussed above, there is no suggestion in any of the cited references of a baby

shoe or an outsole for a baby shoe, nor is there teaching or suggestion of the combination of an inner member and an intermediate member.

F. *Claim 48 is not obvious under 35 U.S.C. § 103(a) over Tomat in further view of Turner and Lennihan, Jr*

As discussed above with respect to part D, Applicant's claims, recite a shoe outsole for a baby shoe, while all of the cited references are directed to adult shoes.

Additionally, neither Tomat, Turner, nor Lennihan, Jr. disclose "a plurality of substantially parallel grooves defined in the upper forefoot region." As discussed above in section D, neither Tomat nor Turner teaches or fairly suggests this feature. Likewise, Lennihan fails to teach or disclose any ridges in the upper surface of the outsole. For at least this reason, Applicants request this rejection be reversed.

G. *Claim 76 is not obvious under 35 U.S.C. § 103(a) over Tomat*

Claim 76 recites, "The shoe outsole of claim 1 wherein the ground contacting surface further includes an intermediate member, between the inner member and the outer member, having a softer durometer than the outer member, the durometer of the inner member being softer than the durometer of the intermediate member." As discussed above with respect to claims 5-7 and 47, Tomat fails to disclose an intermediate member between the outer member and the inner member. Tomat merely teaches inserts 11 that may comprise a one-piece member. Applicant respectfully requests reconsideration in light of the arguments set forth in this part and with respect to claim 1, above.

Applicant submits that this application is now in condition for allowance. Early favorable action is solicited. Filed herewith is a Petition for Automatic Extension with a check for $110.00. A check for $320.00 is also enclosed for payment of the required brief fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: November 25, 2002

Timothy A. French
Reg. No. 30,175

Fish & Richardson P.C.
225 Franklin Street
Boston, Massachusetts 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

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Appendix of Claims

--1. (Amended) A shoe outsole for a baby shoe, comprising:

an outer member including an inner heel region; and

an inner member located in the inner heel region and including a ground contacting surface, the inner member having a softer durometer than the outer member;

the shoe outsole being dimensioned for use in a baby shoe, and the inner member being positioned and dimensioned to fit under a baby's heel during use of the baby shoe.

2. The shoe outsole of claim 1 wherein the inner member contains a liquid.

3. The shoe outsole of claim 1 wherein the inner member contains a gas.

4. (Amended) The shoe outsole of claim 1 wherein the inner member extends to within about 2 mm of a back edge of the outer member.

5. The shoe outsole of claim 1 wherein the outer member includes an intermediate region, an intermediate member being located in the intermediate region and having a softer durometer than the outer member.

6. (Amended) The shoe outsole of claim 5 wherein the intermediate member extends to within about 1.5 mm of a front edge of the outer member.

7. (Amended) The shoe outsole of claim 5 wherein the intermediate member extends to within about 2 mm of a back edge of the outer member.

8. The shoe outsole of claim 1 wherein the outer member includes a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane.

47. (Amended) A shoe outsole for a baby shoe, comprising:

an outer member;

an inner member, located in an inner heel region of the shoe outsole; and

an intermediate member located in an intermediate region of the shoe outsole, between the outer member and the inner member,

the intermediate member having a softer durometer than the outer member, and including a plurality of ridges, and

the inner member including a ground contacting surface, and having a softer durometer than the outer member;

the shoe outsole being dimensioned for use in a baby shoe, and the inner member being positioned and dimensioned to fit under a baby's heel during use of the baby shoe.

48. (Amended) A shoe outsole for a baby shoe, comprising:

an outer member including, a lower forefoot region, an opposite upper forefoot region, and a back wall, the back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane;

an inner member located in an inner heel region of the shoe outsole, and including a ground contacting surface, the inner member having a softer durometer than the outer member;

a plurality of substantially parallel grooves defined in the lower forefoot region, at least one of the plurality of grooves extending toward a front edge of the shoe outsole beyond a ground engaging portion of the lower forefoot region when flat footed;

a plurality of substantially parallel ridges included in the lower forefoot region, at least some of the ridges being interdigitated with the grooves in the lower forefoot region; and

a plurality of substantially parallel grooves defined in the upper forefoot region;

the shoe outsole being dimensioned for use in a baby shoe, and the inner member being positioned and dimensioned to fit under a baby's heel during use of the baby shoe.

49. The shoe outsole of claim 1 wherein the outer member includes a lower forefoot region, and an upper surface including an opposite, upper forefoot region, there being a plurality of grooves defined in the lower forefoot region and a plurality of grooves defined in the upper forefoot region.

50. The shoe outsole of claim 49 wherein the grooves in the lower forefoot region are substantially parallel.

51. The shoe outsole of claim 49 wherein the grooves in the upper forefoot region are substantially parallel.

52. The shoe outsole of claim 49 wherein the grooves in the lower forefoot region are generally transverse to a longitudinal axis of the shoe outsole.

53. The shoe outsole of claim 52 wherein the grooves in the lower forefoot region are substantially perpendicular to the longitudinal axis of the shoe outsole.

54. The shoe outsole of claim 49 wherein the grooves in the upper forefoot region are generally transverse to a longitudinal axis of the shoe outsole.

55. The shoe outsole of claim 54 wherein the grooves in the upper forefoot region are substantially perpendicular to the longitudinal axis of the shoe outsole.

56. The shoe outsole of claim 49 wherein at least some of the grooves in the lower forefoot region extend to both side edges of the shoe outsole.

57. The shoe outsole of claim 49 wherein the grooves in the lower forefoot region extend toward a front edge of the shoe outsole beyond a ground engaging portion of the lower forefoot region when flat footed.

58. The shoe outsole of claim 49 wherein the lower forefoot region includes a plurality of ridges.

59. The shoe outsole of claim 58 wherein at least some of the ridges are interdigitated with the grooves in the lower forefoot region.

60. (Amended) The shoe outsole of claim 49 wherein the outer member includes a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane.

61. The shoe outsole of claim 1 wherein the outer member has a ground contacting surface including a toe region, there being a plurality of grooves defined in the toe region, at least one of the grooves extending toward a front edge of the shoe outsole beyond a ground engaging portion of the toe region when flat footed.

62. The shoe outsole of claim 61 wherein the grooves are substantially parallel.

63. The shoe outsole of claim 61 wherein the grooves extend toward side edges of the shoe outsole.

64. The shoe outsole of claim 61 wherein the grooves are generally transverse to a longitudinal axis of the shoe outsole.

65. The shoe outsole of claim 64 wherein the grooves are substantially perpendicular to the longitudinal axis of the shoe outsole.

66. (Amended) The shoe outsole of claim 61 wherein the outer member includes a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane.

67. The shoe outsole of claim 1 wherein the outer member includes a forefoot region, there being a plurality of substantially parallel grooves located in the forefoot region, and a

plurality of substantially parallel ridges, at least some of the ridges being interdigitated with the grooves.

68. The shoe outsole of claim 67 wherein the ridges are located at ground contacting regions of the forefoot region.

69. The shoe outsole of claim 67 wherein the grooves and the ridges are substantially parallel to each other.

70. The shoe outsole of claim 67 wherein the grooves are generally transverse to a longitudinal axis of the shoe outsole.

71. The shoe outsole of claim 70 wherein the grooves are substantially perpendicular to the longitudinal axis of the shoe outsole.

72. The shoe outsole of claim 67 wherein the ridges are generally transverse to a longitudinal axis of the shoe outsole.

73. The shoe outsole of claim 72 wherein the ridges are substantially perpendicular to the longitudinal axis of the shoe outsole.

74. (Amended) The shoe outsole of claim 67 wherein the outer member includes a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane.

75. The shoe outsole of claim 1 wherein the outer member has a ground contacting surface, an upper surface, and a side wall joining the ground contacting surface and the upper surface, the side wall including a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane.

76. (Amended) The shoe outsole of claim 1 wherein the ground contacting surface further includes an intermediate member, between the inner member and the outer member, having a softer durometer than the outer member, the durometer of the inner member being softer than the durometer of the intermediate member.--

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Filed	: December 10, 1999		
Title	: SHOE OUTSOLE		

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF DAVID THORPE

I, David Thorpe, declare as follows:

1. I am Director of Engineering for The Stride Rite Children's Group, Inc. ("Stride Rite"). I have worked in shoe development, at Stride Rite and previously at C. & J. Clark International, since 1983. I have extensive experience in research and development pertaining to shoes for both children and adults.

2. I am familiar with the above patent application, and with the commercial products that embody the claimed invention, referred to as "The Stride Rite Natural Motion System products." I have worked closely with the inventor, Kevin Gillespie, in the development of these products.

3. There are fundamental differences between adult feet and baby feet. Naturally, these differences translate into differences in footwear suitable for use by adults and by babies. Well-designed and engineered baby shoes incorporate many features and benefits not used in adult footwear and vice versa.

4. The Stride Rite Natural Motion System products are the result of several

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Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 06129-156001

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I, David Thorpe, declare as follows:

1. I am Director of Engineering for The Stride Rite Children's Group, Inc. ("Stride Rite"). I have worked in shoe development, at Stride Rite and previously at C. & J. Clark International, since 1983. I have extensive experience in research and development pertaining to shoes for both children and adults.

2. I am familiar with the above patent application, and with the commercial products that embody the claimed invention, referred to as "The Stride Rite Natural Motion System products." I have worked closely with the inventor, Kevin Gillespie, in the development of these products.

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months of focused research, utilizing information obtained from a gait study that was performed at the Connecticut Children's Medical Center. The gait study looked at the gaits of a number of babies who were taking their first steps ("first walkers"), and identified key characteristics of the babies' gaits.

5. The gait study confirmed that gaits of first walkers are different from those of experienced, adult walkers, and raise different concerns. For example, we learned that walking barefoot was generally easier for first walkers than walking in the shoes that were tested. These shoes tended to cause the babies to wobble. We also found that a baby's foot naturally rolls from heel to toe in a proper gait, whereas the shoes that were tested introduced improper side-to-side motion. The gait study also determined the profile of pressure exerted on the sole of a baby's foot during walking, which allowed us to identify areas of relatively higher pressure.

6. Based on the information obtained from the gait study, we decided on two key objectives for our work in developing a new baby shoe. We wanted to develop a baby shoe that would (1) successfully mimic the barefoot walking characteristics of a first walker, and (2) aid the stability of the first walker, rather than destabilizing the baby's gait.

7. In considering the results of the gait study, we concluded that the wobbling and improper side-to-side motion introduced by the shoes that were tested occurred because the shoes were too stiff, had too many abrupt edges, and did not provide a good landing area at the heel.

8. In our new "Stride Rite Natural Motion System" shoe design, we created a shoe that would mimic the barefoot gait of a first walker by maximizing the shoe flexibility. Flexibility was maximized by providing: (a) a uniformly flexible outsole, with deep flex grooves to the end of the forefoot; (b) a Strobel construction with no insole; and (c) strategic positioning of upper seams to avoid flex areas. Barefoot walking was further simulated by providing a thin outsole to avoid extra weight that could inhibit natural gait; a flat pitch of the outsole from toe to heel, simulating the profile of a first walker's foot, and consistent substance padding under the foot.

9. We enhanced the lateral-to-medial stability of a first walker's gait by providing a multi-durometer outsole. The outsole includes a soft durometer "landing pad" (inner member) under the baby's heel, and a soft "center stride path" (intermediate member). These relatively softer areas of the outsole provide resilient cushioning in regions of the baby's sole that experience high pressure during walking. We also provided (a) large radius areas at the heel and toe, giving a stable beginning to the gait and a bigger landing area for first walkers, many of whom land on an angle rather than straight on, and (b) a back wall having a rounded contour extending smoothly between a horizontal plane and a vertical plane to avoid abrupt edges that could destabilize the baby's gait. In addition, we provided a flat waist arch inside the shoe, because first walkers have not yet developed an arch and thus adding an arch shape into the shoe may unbalance the baby.

10. I do not consider the objectives discussed above as being fundamental in the design of adult footwear. The mimicking of barefoot walking is essential to a first walker. The closer we get to achieving this goal, the easier the child will adapt to walking in footwear. Stability is also crucial, as a first walker adapting to footwear still has to master the art of balance. In contrast, an adult walker is already adept at walking, and has adapted to wearing shoes and perfected his or her balance.

11. I have reviewed the prior art references cited by the examiner in the above patent application. Each of these references describes a shoe that is designed for adult use and would not be suitable for a first walker. The Tomat shoe does not have the flexibility required for a baby shoe. Instead, the Tomat shoe has a relatively thick, inflexible outsole, and Tomat requires the use of a bulky insole 12 (see col. 2, line 61 and Fig. 7). The other shoes described in the references include studded soles, footbeds and thick rounded soles that would not be suitable for use in a baby shoe.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are

punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: December 6th 2001

David Thorpe

20352437

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Kevin H. Gillespie
Serial No. : 09/458,415
Filed : December 10, 1999
Title : SHOE OUTSOLE

Art Unit : 3728
Examiner : A. Stashick

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF DR. EDWARD MOSTONE

I, Dr. Edward Mostone, declare as follows:

1. I am a podiatrist. A copy of my curriculum vitae is attached.

2. There are significant differences between infant feet and adult feet. Infant feet are not simply smaller versions of adult feet. For instance, an infant's foot is hyper-mobile, and has little or no arch, due to "baby fat." Moreover, the bones of an infant are very soft. Some bones do not even appear on an x-ray of an infant's foot, because ossification has not yet occurred. As a result, the bone structure of an infant's foot is moldable until the child is at least 4 to 6 years old. These characteristics do not occur in most normal adult feet.

3. The gait of an infant is also different from that of an adult. Infants tend to waddle, with their toes directed outward in a "duck walk." A normal, adult gait is generally not achieved until the child is 6 to 8 years old. Infants also have great difficultly balancing on two feet -- as a result many infants tend to walk with their arms raised, in an effort to balance. Improper footwear can exacerbate these problems. Most normal adults do not suffer from these problems.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

DECEMBER 6, 2001
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TIMOTHY A. FRENCH
Typed or Printed Name of Person Signing Certificate

Attorney's Docket No.: 06129-146001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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3. The gait of an infant is also different from that of an adult. Infants tend to waddle, with their toes directed outward in a "duck walk." A normal, adult gait is generally not achieved until the child is 6 to 8 years old. Infants also have great difficultly balancing on two feet -- as a result many infants tend to walk with their arms raised, in an effort to balance. Improper footwear can exacerbate these problems. Most normal adults do not suffer from these problems.

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12-04-01
Date of Deposit

Signature

EDWARD J MOSTONE
Typed or Printed Name of Person Signing Certificate

Applicant : Kevin H. Gillespie
Serial No. : 09/458,415
Filed : December 10, 1999
Page : 2

Attorney's Docket No.: 06129-156001

4 I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Date: 12-4-01

Dr. Edward Mostone

20152437.1

Curriculum Vitae

NAME: Edward J. Mostone, D.P.M. May 3, 2001
ADDRESS: 678 Massachusetts Avenue, Cambridge, MA 02139
PLACE OF BIRTH: Boston, MA

EDUCATION:

1985	Doctor of Podiatric Medicine	New York College of Podiatric Medicine, New York, NY
1981	Bachelor of Arts	Assumption College, Worcester, MA

POSTDOCTORAL TRAINING:

1986-1987	Chief Resident in Podiatric Medicine and Surgery	Baptist Medical Center, Brooklyn, NY
1985-1986	Resident in Podiatric Medicine and Surgery	Baptist Medical Center, New York, NY

LICENSURE AND CERTIFICATION:

1986	Podiatry License	Massachusetts
1986	Podiatry Licence	Connecticut
1985	Podiatry Licence	New York
1991	American Board of Pediatric Orthopaedics - Board Certified	
1992	American Board of Podiatric Surgery - Board Certified	
1998	American Academy of Pain Management	

PROFESSIONAL APPOINTMENTS:

Academic Appointments:

1997	Clinical Instructor in Orthopaedics, Tufts University School of Medicine

Hospital Appointments:

1987	Staff Member,	The Cambridge Hospital
1987	Staff Member,	Lawrence Memorial Hospital
1988	Staff Member,	Mount Auburn Hospital
1989	Associate Staff,	St. Vincent's Hospital
1993	Courtesy Staff,	Winchester Hospital
1996	Associate Staff	New England Medical Center
1996	Staff Member,	Marguerite D'Youville Hospital

Other Professional Positions, Major Visiting Appointments, Relevant Community Service:

1985	Clinical Instructor, Medical Mission, San Paolo, Brazil
1985-1987	Associate Director of Podiatric Services, New York State Police
1987-1990	Podiatrist, Park Street Homeless Shelter, Boston, MA
1988-1990	Team Podiatrist, Boston Public School System

1996 Visiting Physician, Medical Mission, Baltic American Clinic, Vilnius Emergency Hospital, Vilnius, Lithuania
1996 Visiting Lecturer, Staten Island University Hospital
1997 Weekly Instructor in Podiatry, Marguerite D'Youville Hospital School of Nursing
1999 Visiting Lecturer, Staten Island University Hospital

AWARDS AND HONORS:

1987 Baptist Medical Center, Scientific Publication Award, Keller-Austin Bunionectomy.
1987 Dr. Frank Esposito Award, Excellence in Residents' Training
1996 Baltic American Clinic, Vilnius, Lithuania, Certificate of Appreciation
1994 Clinical Teacher of the Year, Podiatry Residency Program, The Cambridge Hospital

PRINCIPAL CLINICAL AND HOSPITAL SERVICES RESPONSIBILITIES:

1991-1998 Chief, Division of Podiatric Medicine, The Cambridge Hospital
1989-1998 Associate Director, Podiatric Surgical Residency Program, The Cambridge Hospital
1992-1996 Chairman, Podiatry Residence Selection Committee
1990-1992 Chief, Division of Podiatric Medicine, The Heritage Hospital
1996-present Director, Division of Podiatric Medicine, Marguerite D'Youville Hospital

MAJOR COMMITTEE ASSIGNMENTS

1990-1992 Medical Executive Committee, Heritage Hospital
1991-1999 Medical Executive Committee, The Cambridge Hospital
1991-1998 Patient Care Improvement Committee, The Cambridge Hospital
1991-1996 Ambulatory Quality Assurance Committee, The Cambridge Hospital
1992-1999 Credentials Committee, The Cambridge Hospital
1992-1998 Institution Coordination Committee, The Cambridge Hospital
1992-1998 Surgical Case Review Committee, The Cambridge Hospital
1992-1998 Board of Trustees, The Cambridge Hospital Podiatry Residency Program
1992-1996 Operating Room Committee, The Cambridge Hospital

MAJOR ADMINISTRATIVE RESPONSIBILITIES:

1989-1998 Associate Director, The Cambridge Hospital Podiatry Residency Program
1991-1992 Director, Podiatry Residency Training Program, The Cambridge Hospital
1991-1998 Chief, Division of Podiatry, The Cambridge Hospital
1987-present Clinical Instructor, Division of Podiatry, The Cambridge Hospital

PROFESSIONAL SOCIETY INVOLVEMENTS:

1987 Member, American Podiatric Medical Association
1987 Member, Massachusetts Podiatric Medical Society

1987 Member. American Diabetes Association
1987 Member. American Association of Hospital Podiatrists
1987 Member. American Society of Regional Anesthesia
1987 Member. American Podiatric Circulatory Society
1991 Member. American College of Foot Surgeons
1992 Member. American College of Foot and Ankle Surgeons
1998 Member. American Public Health Association
1998 Member. American Academy of Pain Management
1998 Member. American Academy of Foot Orthopaedists

EDITORIAL BOARDS:

Self Report of Research. Teaching. Clinical Scholarship.

1985 Lecture Series; The Common Podiatric Problems for the General Practitioner. Medical Mission, San Paolo, Brazil
1985 Lecture Series, The Diabetic Foot and its Care, Medical Mission, San Paolo. Brazil
1985 Lecture, Prevention and Care of Foot Ulcers. Red Cross Nursing Staff, Medical Mission. San Paolo, Brazil
1985 Lecture, Assessment and risk factors for amputation in patients with diabetes mellitus, Medical Mission, San Paolo, Brazil
1988 The New Podiatric Physician. St. Vincent's Hospital Department of Medicine
1988 Lecture Series. Reverdin-Laird Bunionectomy. The Cambridge Hospital, Division of Podiatric Medicine
1989 Lecture Series, The Diabetic Foot. St. Vincent's Hospital Department of Podiatry.
1990 Lecture Series, The Surgical Approach to Hammertoe Deformity, The Cambridge Hospital, Division of Podiatric Medicine
1991 Lecture Series, Management of Fractures of the Forefoot, The Cambridge Hospital, Division of Podiatric Medicine
1991 Lecture Series, Reverdin-Laird Bunionectomy, St. Vincent's Hospital Department of Podiatry
1991 Lecture Series, Common Foot Problems in the Elderly, St. Vincent's Hospital Department of Podiatry
1987-1998 Facilitator, Resident's Journal Club, Department of Podiatric Medicine. The Cambridge Hospital
1992 Lecture Series, Treatment of Infections of the Lower Extremity, The Cambridge Hospital, Department of Medicine, Residency Teaching Program
1992 Lecture Series, Care of Bunions, Corns, Calluses and Ulcerations of the Feet, Primary Care Physicians, Fallon Clinic.
1992 Certifying Course Instructor, Lecturer, and Cadaver Laboratory Instructor, Ankle Arthroscope and Endoscopic Plantar Fasciotomy, Boston University School of Medicine and The Cambridge Hospital, Division of Podiatry.
1993 Lecture Series, Common Podiatric Problems Treated at The Cambridge Hospital Emergency Department, The Cambridge Hospital

1994 Lecturer and Instructor. The History of Podiatry and Current Mandates of Residency Training Programs, Department of Internal Medicine, Fallon Medical Center

1994 Lecturer and Instructor, Certifying Program for Laser Surgery. The Cambridge Hospital, Division of Podiatric Medicine

1994 Lecturer, Podiatry Surgical Review Course. The Cambridge Hospital. Division of Podiatric Medicine

1994 Lecture Series, The Treatment of the Diabetic Foot, The Cambridge Hospital. Department of Medicine.

1995 Instructor, Common Foot Problems in the Elderly, Community Family Nursing Service, Everett/Medford. MA

1995 Instructor, Classification and treatment care plan for foot ulcers, Community Family Nursing Service, Everett/Medford, MA

1996 Grand Rounds, Surgical Approach to Hammertoe Deformity, Baltic American Clinic, Vilnius, Lithuania.

1996 Grand Rounds, Management of Open/Closed Fractures of the Foot, Vilnius University Emergency Hospital, Vilnius, Lithuania

1996 Grand Rounds, Fundamentals of Foot Surgery, Baltic American Clinic, Vilnius, Lithuania

1996 Grand Rounds, The Diabetic Foot; diagnosis, care and follow-up. Baltic American Clinic, Vilnius, Lithuania

1996 Lecture Series, Common Podiatric Problems Treated in the Emergency Room, Vilnius University Emergency Hospital, Vilnius, Lithuania

1996 Lecture Series, Puncture wounds: normal laboratory values vs. severe infection and antibiotic treatment. Vilnius University Emergency Hospital, Vilnius, Lithuania

1996 Grand Rounds, Peripheral vascular disease in the diabetic foot. Baltic American Clinic, Vilnius, Lithuania.

1996 Lecture Series, Classification and treatment care plan for foot ulcers, Division of Podiatry, Staten Island University Hospital

1996 Lecture Series, Medical and Surgical Management of Charcot's Arthropathy in patients with diabetes. Vilnius University Emergency Hospital, Vilnius, Lithuania.

1998 Soft Tissue Infection in the Diabetic Foot, Division of Podiatry, Staten Island University Hospital

1999 Lecture Series, Circulatory Problems in the Lower Extremity of the Diabetic, Division of Podiatry, Staten Island University Hospital.

1999 Lecture Series, Circulatory Problems in the Lower Extremity of the Diabetic, Physician Assistants, New England Medical Center.

1999 Footwear for the Diabetic, Cambridge Elder Services, City of Cambridge

1999 to present Resident's Journal Club, Division of Podiatric Medicine, The Cambridge Hospital

PUBLICATIONS AND TEXTS:

1. Walter M, Mostone E, Esposito F, Buxbaum F. The Keller-Austin Bunionectomy. J Foot Surg 26:5:pp400-405, 1987
2. Erwin R, Mintzer M, Greenberg L, Goldstein H, Berg A, Cohen H, Mostone E. Defense of Drunk Driving Cases, Criminal-Civil. Time Mirror Books, vol. 1, chapter 36, 1993

3. Carpenter B, Mostone E. The Cambridge Hospital Podiatry Manual, The Cambridge Hospital Library 1996
4. Mostone E. et al. Bunion Surgery, video. Division of Podiatry, The Cambridge Hospital Library. 1996
5. Miller J, Nath R, Stoughton A, Carpenter B, Mostone E. Streptococcal Toxic Shock Syndrome from a Puncture Wound to the Foot. J Foot Ankl Sur, vol 35, no.6, p578, Nov/Dec 1996.
6. Mostone E. et al. Hammertoe, video, Division of Podiatry, The Cambridge Hospital Library, 1997.
7. Killian F, Carpenter B, Mostone E. Dorsal Dislocation of the First Metatarsophalangeal Joint. J Foot Surg, vol 35, no. 2, p131, Mar/Apr 1997.
8. Author, "Achilles Tendonitis" Fallon Quarterly Community Health Guide. Fall 2000

REFERENCES AND BIBLIOGRAPHY:

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2. Armstrong DG, Lavery LA, Quebedeaux TL, Walker SC. Surgical morbidity and the risk of amputation due to infected puncture wounds in diabetic versus nondiabetic adults. South Med J 1997;90:384-9
3. Gibbons G, Eliopoulos GM. Infection of the diabetic foot. In: Kozak GP, et al., eds. Management of diabetic foot problems. Philadelphia: Saunders. 1984:97-102.
4. Pecoraro RE, Reiber GE, Burgess EM. Pathways to diabetic limb amputation. Basis for prevention. Diabetes Care 1990,13:513-21.
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6. Edmonds ME. Experience in a multidisciplinary diabetic foot clinic. In: Connor H, Boulton AJ, Ward JD, eds. The foot in diabetes: proceedings of the 1st National Conference on the diabetic Foot., Malvern, May 1986. Chichester, N.Y.: Wiley. 1987:121-31.
7. Wylie-Rosset J, Walker EA, Shamoon H, Engel S, Basch C, Zybert P. Assessment of documented foot examinations for patients with diabetes in inner-city primary care clinics. Arch Fam Med 1995;4:46-50..
8. United States National Diabetes Advisory Board. The national long-range plan to combat diabetes,. Bethesda, Md.: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, 1987; NIH publication number 88-1587.
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